

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C.

In the Matter of)	
)	
)	
Inquiry Concerning the Deployment of Advanced)	
Telecommunications Capability to All Americans)	GN Docket No. 09-137
in a Reasonable and Timely Fashion, and Possible)	
Steps to Accelerate Such Deployment Pursuant to)	
Section 706 of the Telecommunications Act of)	
1996, as Amended by the Broadband Data)	
Improvement Act)	
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	

COMMENTS OF COMCAST CORPORATION

Comcast Corporation (“Comcast”) hereby responds to the Commission’s Notice of Inquiry (“*Notice*”) in the above-captioned proceeding.¹ In the 13 years since passage of the Telecommunications Act of 1996 (the “1996 Act”), broadband Internet service has become an integral part of most Americans’ lives. Intense facilities-based competition has driven the rapid deployment of state-of-the-art broadband networks throughout the United States. As discussed in more detail below, broadband Internet service is available today to over 90 percent of U.S. households, over 80 percent can choose from at least two options for broadband Internet service, and providers continue to invest billions of dollars each year to expand and improve their

¹ See *In re Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act et al*, Notice of Inquiry, GN Docket No. 09-137, FCC 09-65 (Aug. 7, 2009) (“*Notice*”).

networks. As the data demonstrate, the marketplace is deploying broadband to Americans “in a reasonable and timely fashion.”²

And Americans are increasingly embracing the opportunities that broadband Internet provides. Adoption of broadband has been at least as rapid as that of the most important technologies introduced over the past 150 years, and today over 70 million U.S. households (more than 60 percent of American adults) subscribe. Importantly, recent studies suggest that adoption among senior citizens, minorities, and other groups for whom adoption has historically lagged is now on the rise.

That is not to say the job is complete. Broadband Internet service still is not available to a small percentage of households, primarily in rural areas, and there is still a significant percentage of households that do not subscribe to broadband Internet service even though it is available to them. The Commission’s broadband-related efforts – and particularly the National Broadband Plan – will produce the most fruit by focusing on these twin issues of ensuring access everywhere and promoting adoption. This Section 706 Inquiry, as part of the Commission’s broader broadband-related efforts, will catalogue the successes of the last 13 years in delivering broadband Internet service to consumers, and identify what remains to be done.

I. PRIVATE INDUSTRY HAS DEPLOYED COMPETITIVE BROADBAND INTERNET SERVICES TO THE VAST MAJORITY OF U.S. HOUSEHOLDS.

Comcast and other commenters in the National Broadband Plan proceeding submitted significant amounts of data cataloguing the widespread deployment of broadband Internet

² Telecommunications Act of 1996, Pub. L. 104-104, § 706(b), 110 Stat. 56, 153 (codified at 47 U.S.C. § 157 note); *see Notice* ¶ 1.

service across the United States.³ By all accounts, broadband Internet service is available to over 90 percent of U.S. households. Specifically:

- Today, cable high-speed Internet passes almost 120 million American homes – about 92 percent of all households in the United States.⁴
- Four-fifths of American homes can choose between, at a minimum, cable and telco broadband Internet services.⁵
- Various studies show that the percentage of households without access to broadband Internet service may be as low as 5 to 6 percent.⁶
- Wireless broadband reaches 96 percent of Americans⁷ and, according to CTIA, more than 92 percent of Americans live in an area with four or more 3G wireless broadband providers.⁸

Commenters in the National Broadband Plan proceeding almost universally agreed that broadband is nearly ubiquitously available in the United States.⁹

³ Comcast Comments at 32-45; Comcast Reply Comments at 3-8; U.S. Telecom Ass’n (“USTelecom”) Comments at 3-4; Qwest Comments at 18; Time Warner Cable Comments at 12. Unless otherwise indicated, all references to “Comments” or “Reply Comments” are references to filings made in GN Docket No. 09-51 on or around June 8, 2009 and July 21, 2009.

⁴ This calculation is based on the Census Bureau’s most recent data estimating that there are almost 131 million households in the United States. See Press Release, U.S. Census Bureau, Dep’t of Commerce, *Census Bureau Reports on Residential Vacancies and Homeownership* 3 (July 24, 2009), available at <http://www.census.gov/hhes/www/housing/hvs/qtr209/files/q209press.pdf>

⁵ See USTelecom Comments at 3-4. Commenters also widely acknowledged the Commission’s estimate that DSL service is available to 82 percent of homes passed by local telephone service, Indus. Analysis Div., Wireline Competition Bureau, FCC, *High-Speed Services for Internet Access: Status as of December 31, 2007*, at 3 (2008), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-287962A1.pdf. See e.g., USTelecom Comments at 3-4; Qwest Comments at 18.

⁶ Hahn & Wallsten Comments at 9 (filed by Scott Wallsten on June 10, 2009); Free State Found. Comments at 3.

⁷ See Hahn & Wallsten Comments at 4 (citing CostQuest Associates, Inc., *U.S. 3G Mobile Wireless Broadband Competition Report* (July 14, 2008), available at http://www.costquest.com/costquest/docs/CostQuest_3G_Competition_Report.pdf).

⁸ See CTIA Comments at 2.

⁹ Hahn & Wallsten Comments at 4; see Verizon Comments at 12; AT&T Comments at 79 (noting that “broadband has spread explosively throughout the country”); Qwest Comments at 18; CTIA Comments at 2; Time Warner Cable Comments at 10; Free State Found. Comments at 3. Even commenters like Consumer Federation of America and Consumers Union (“CFA/CU”), which persistently paint a pessimistic portrait of the broadband (footnote continued...)

In addition, private investment continues to flow into the marketplace as providers improve their services and expand their service areas. Cable and telephone companies, for example, have invested hundreds of billions of dollars of private risk capital in competitive broadband platforms.¹⁰ In just the past two years, “[p]rivate U.S. broadband providers invested approximately \$120 billion in communications infrastructure throughout the nation.”¹¹

Facilities-based competition has played a huge role in the successes thus far. The world-class speeds offered by cable’s high-speed Internet service have motivated the largest telephone companies to announce major investments in fiber-to-the-home and fiber-to-the-node network upgrades,¹² such as Verizon’s FiOS¹³ and AT&T’s U-verse.¹⁴ Additionally, consumers’ increasing appetite for mobility has resulted in widespread deployment of wireless broadband technology.¹⁵ Importantly, these wireless companies not only compete with each other; “competition between cable, wireline and wireless companies [is] continuing to force investment

(...footnote continued)

marketplace, agree that, at most, 10 percent of American homes remain unserved by a wireline broadband option. See CFA/CU Comments at 11.

¹⁰ See Free State Found. Comments at 4-5; Progress & Freedom Found. Comments at 19-21; Verizon Comments at 12; NCTA Comments at 1; USTelecom Comments at 11-12.

¹¹ Inst. for Policy Innovation Comments at 3.

¹² These networks enable providers to offer much faster speeds than DSL networks. For example, Verizon’s FiOS offers speeds of up to 50 Mbps downstream and 20 Mbps upstream. See News Release, Verizon Communications, Inc., *Verizon Widens Availability of Its Fastest, DSL-Enabled High Speed Internet Service* (June 8, 2009), available at <http://newscenter.verizon.com/press-releases/verizon/2009/verizon-widens-availability-2.html>.

¹³ Verizon has reported that it will invest \$23 billion in its all-fiber FiOS network through 2010, and that its service will be available to 18 million homes. See Verizon Comments at 20.

¹⁴ AT&T is deploying its U-Verse service across its own footprint, reportedly reaching 17 million living units at the end of 2008, and marketing to 65 percent of those units. AT&T Inc., *Form 10-K*, at 2 (Feb. 29, 2009), available at <http://ccbn.10kwizard.com/xml/download.php?repo=tenk&ipage=6164430&format=PDF>.

¹⁵ The Rural Broadband Strategy Report released last May estimated that wireless broadband networks cover 95.6 percent of Americans. See Acting Chairman Michael J. Copps, Federal Communications Commission, *Bringing Broadband to Rural America: Report on a Rural Broadband Strategy* at 12-13 ¶ 27 (May 22, 2009) (“Rural Broadband Report”), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-291012A1.pdf.

in faster and faster networks.”¹⁶ As the industry transitions to 4G networks with the rollout of LTE and WiMAX, more consumers will benefit from “broadband to the person.”¹⁷

These extensive deployments are notable achievements. An independent study by the global consulting firm LECG Ltd. found that the United States has the best broadband “Business Infrastructure” and “Government Infrastructure” in the world.¹⁸ “[T]he data show us that we are not falling behind other countries and can afford to take the time to carefully consider new policies that will affect this critical infrastructure.”¹⁹

In sum, with few exceptions, broadband Internet service availability in this country is very good. Importantly, while some of the credit for this success clearly belongs to the policies established by Congress in 1996 and the decisions the FCC made under Chairmen Hundt, Kennard, and Powell, much of this success is due to the massive investment and deployment of broadband Internet services – first by cable, and then by telcos, and more recently by licensed and unlicensed wireless providers – undertaken almost exclusively by the private sector. Unlike

¹⁶ USTelecom Comments at 6. And while Professors Hahn and Wallsten noted that “wireless is not a perfect substitute for wireline broadband,” they added that, “as wireless networks improve[,] they become increasingly good substitutes for wired networks.” See Hahn & Wallsten Comments at 3; see also Michael Calabrese, *The End of Spectrum “Scarcity,”* New America Foundation Working Paper # 25 (June 2009) (extolling the potential virtue of wireless broadband and noting that “[w]ithin a few short years, most Americans are likely to spend more hours each week on mobile than on wired Internet connections”), available at http://www.newamerica.net/files/Calabrese_WorkingPaper25_EndSpectrumScarcity.pdf.

¹⁷ Ex Parte Letter of Christopher Guttman-McCabe, CTIA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 09-51, at 15 (May 12, 2009). Clearwire already has launched its Mobile WiMAX service offering speeds up to 6 Mbps on residential modems and up to 4 Mbps for mobile service in a number of different markets. See Press Release, Clearwire Communications LLC, *Clearwire To Officially Launch CLEAR 4G Service in 10 Markets on September 1, 2009* (Aug. 3, 2009), available at <http://newsroom.clearwire.com/phoenix.zhtml?c=214419&p=irol-newsArticle&ID=1315679&highlight=>.

¹⁸ Leonard Waverman, et al., LECG Ltd., *Connectivity Scorecard 2009*, at 1 (2009), available at <http://www.connectivityscorecard.org/images/uploads/media/TheConnectivityReport2009.pdf>.

¹⁹ Scott Wallsten, Tech. Policy Inst., *Leveraging Communications: ICT as Economic Stimulus* 4 (2008) (attached as an appendix to Simon Wilkie, Aspen Institute, *ICT: The 21st Century Transitional Initiative – Report of the 23rd Annual Aspen Institute Conference on Communications Policy* (Jan. 7, 2009), available at <http://www.aspeninstitute.org/publications/ict-21st-century-transitional-initiative>).

other sectors of the economy, broadband service providers continue to invest in their networks and employ hundreds of thousands of Americans. Moving forward, it will be important to monitor the progress of the infrastructure deployment supported by the Broadband Technology Opportunities Program and the Broadband Initiatives Program.²⁰ These programs should help close the remaining gaps in the availability of broadband Internet, especially in areas where the economics of private investment do not support deployment.

II. STATE-OF-THE-ART BROADBAND INTERNET IS AVAILABLE THROUGHOUT COMCAST'S FOOTPRINT.

Comcast is the largest provider of residential broadband Internet service in the nation. Today, over 15.3 million consumers – over 30 percent of the homes to which Comcast's High-Speed Internet ("HSI") service is available – subscribe. For over a decade, Comcast has continued to expand deployment of its HSI service, and now reaches over 99.4 percent of the homes in its footprint with its HIS service.

Since 1996, Comcast has invested tens of billions of dollars to deploy fiber and upgrade its cable systems to make its HSI service available to nearly every home its cable systems pass.²¹ Comcast always has invested to meet consumer demand. In the second of the Commission's Section 706 inquiries, Comcast reported that its HSI service provided downstream "speeds exceeding one megabyte per second," was "available to more than 3.2 million households," and had attracted "almost 142,000 customers."²² Less than ten years later, we can now report that

²⁰ See Dep't of Agric., Rural Utils. Serv., Broadband Initiatives Program, RIN: 0572-ZA01; Dep't of Commerce, Nat'l Telecomm. & Info. Admin., Broadband Technology Opportunities Program, RIN: 0660-ZA28, Notice of Funds Availability, 74 Fed. Reg. 33104 (July 9, 2009).

²¹ This includes investments made by companies Comcast has acquired since 1996, such as AT&T Broadband.

²² Reply Comments of Comcast Corp., CC Docket No. 98-146, at 6 (April 4, 2000).

Comcast's HSI service provides downstream speeds of 6, 12, 22, or even 50 Mbps; is available to 50.9 million homes; and has attracted over 15.3 million customers.

Comcast is aggressively deploying the newest generation of cable modem technology – DOCSIS 3.0. As of the date of this filing, Comcast already has deployed DOCSIS 3.0 to over half of its footprint – covering over 25 million homes – and plans to deploy DOCSIS 3.0 to close to 80 percent of the homes in its footprint by the end of this year.²³

By the end of 2010, Comcast expects to have near-ubiquitous DOCSIS 3.0 deployment throughout its footprint. Once DOCSIS 3.0 is deployed throughout a given area, Comcast can increase the provisioned speeds in that area for its Performance customers to 12 Mbps downstream (up to 15 Mbps with PowerBoost™) and 2 Mbps upstream, and the provisioned speeds for its Blast! tier customers to 16 Mbps downstream (up to 20 Mbps with PowerBoost™) and 2 Mbps upstream.²⁴ Comcast also can offer customers new, faster tiers of service, including the Extreme 50 tier, offering up to 50 Mbps of downstream speed and up to 10 Mbps of upstream

²³ See Press Release, Comcast Corp., *Comcast Completes Launch of Extreme 50 MBPS High-Speed Internet Service in City of Philadelphia and Region* (July 22, 2009), available at <http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=902>; see also *CMCSA Q2 2009 Comcast Corporation Earnings Conference Call*, Transcript, 2 (Aug. 6, 2009), available at <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9MTMxMTI8Q2hpbGRJRDR0tMXxUeXBIPtM=&t=1>.

²⁴ See Press Release, Comcast Corp., *Comcast Puts the Pedal to the Metal: Announces New 65% Benchmark To Roll Out Wideband High-Speed Internet Services in 2009* (Feb. 19, 2009), available at <http://www.comcast.com/About/PressRelease/PressReleaseDetail.ashx?PRID=838>; Comcast Corp., *FAQs: What Are the New Internet Speeds That Comcast Will Offer with the Launch of DOCSIS 3.0?*, <http://www.comcast.com/Customers/FAQ/FaqDetails.ashx?Id=4859&fss=performance%20plus> (last visited Sept. 4, 2009). Comcast has a history of increasing broadband speeds to consumers without increasing price. As detailed in our National Broadband Plan Comments, Comcast has provisioned higher speeds to subscribers four different times since 2003 without increasing prices. See Comcast Comments at 37-38.

speed,²⁵ and the Ultra tier, offering up to 22 Mbps of downstream speed (up to 30 Mbps with PowerBoost) and up to 5 Mbps of upstream speed.²⁶

III. BROADBAND ADOPTION IN THE UNITED STATES CONTINUES TO PROCEED AT A RAPID PACE.

The investment and growth in broadband Internet deployment has been accompanied by a simultaneous growth in broadband Internet adoption, though there is still work to be done to break down remaining barriers to adoption.²⁷ As of 2001, more than 44 million U.S. households accessed the Internet through a dial-up connection, while only about 10 million used a broadband connection.²⁸ In the subsequent years, that statistic has been turned on its head. According to recent Census Bureau data, 82 percent of households that accessed the Internet in 2007 reported doing so using a broadband connection.²⁹ As Comcast and other commenters in the National Broadband Plan proceeding noted, Americans have adopted broadband rapidly – faster, in fact, than many of the most important and popular technologies introduced over the past 150 years.³⁰

²⁵ Because the Internet is an interdependent ecosystem, the deployment of next generation broadband Internet service and the introduction of new applications and services necessarily require the rest of the ecosystem – the middle mile, the backbone, content-delivery infrastructure, etc. – to scale up as well.

²⁶ See Comcast Puts the Pedal to the Metal, *supra* note 24.

²⁷ For more detailed discussion of these barriers, including digital literacy, access to computers, and affordability, as well as Comcast's proposals for addressing these barriers, see Comcast Comments at 68-95.

²⁸ NTIA, *A Nation Online: Entering the Broadband Age 5* (Sept. 2004), available at <http://www.ntia.doc.gov/reports/anol/NationOnlineBroadband04.pdf>.

²⁹ See Press Release, U.S. Census Bureau, Dep't of Commerce, *Internet Use Triples in Decade, Census Bureau Reports* (June 3, 2009), available at http://www.census.gov/Press-Release/www/releases/archives/communication_industries/013849.html.

³⁰ See Comcast Comments at 68-69; USTelecom Comments at 4-5; Verizon Comments at 13; see also Dept. of Res. & Econ. Dev. & Telecomm. Advisory Bd., State of N.H., *State of New Hampshire Broadband Action Plan 9* (June 30, 2008) (showing that broadband has reached 50 percent of homes faster than personal computers, color television, cell phones, VCRs, and CD players), available at <http://www.nheconomy.com/uploads/Final-Report-082808.pdf>.

Although estimates of the total number of broadband Internet connections in the United States vary,³¹ one undisputed fact is that broadband adoption continues to grow. For example, the Pew Internet & American Life Project recently reported that the percentage of Americans that have adopted broadband Internet at home jumped from 55 to 63 in a mere 11 months.³² As the *Rural Broadband Report* recognizes, “Broadband connections have grown at a remarkable rate.”³³ Even in the relatively slow growth of the second quarter of 2009, broadband Internet providers recorded net growth to the subscriber base – for example, Verizon gained about 186,000 wireline broadband subscribers,³⁴ AT&T added 112,000,³⁵ and Comcast gained about 65,000 new subscribers.³⁶ As more Americans adopt broadband, cable Internet service continues to be the most popular broadband Internet service,³⁷ and cable operators are continuing to make the investments to remain at the forefront of an ever-more-intensely competitive marketplace.

³¹ OECD reported over 77 million connections as of December 2008. See Org. for Econ. Coop. & Dev., *OECD Broadband Statistics: Total Number of Broadband Subscribers By Country* (Dec. 2008), available at <http://www.oecd.org/dataoecd/22/15/39574806.xls>. SNL Kagan, on the other hand, reported more than 73 million cable and wireline broadband connections as of the end of the first quarter of 2009. See Ian Olgeirson & Mari Rondeli, SNL Kagan, *Cable, Telco Data Growth Bounces in Q1*, Broadband Tech., May 20, 2009.

³² Pew Internet & Am. Life Project, *Home Broadband Adoption 2009*, at 3 (June 2009), available at http://www.pewinternet.org/~media/Files/Reports/2008/PIP_Broadband_2008.pdf.

³³ *Rural Broadband Report* at 7 ¶ 14 n.20.

³⁴ Verizon reported a net gain of 303,000 FiOS Internet subscribers, but a net loss of 117,000 DSL-based broadband connections. See News Release, Verizon Communications, Inc., *Verizon Reports Revenue Growth and Continued Improvement in Cash Flow in 2Q* (July 27, 2009), available at <http://investor.verizon.com/news/view.aspx?NewsID=1000>.

³⁵ See Press Release, AT&T, Inc., *Strong Wireless Growth, Continued Cost Discipline, Solid Free Cash Flow Highlight AT&T's Second-Quarter Results* (July 23, 2009), available at <http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=26961>.

³⁶ See Press Release, Comcast Corp., *Comcast Reports Second Quarter 2009 Results* (Aug. 6, 2009), available at <http://www.cmcsk.com/releasedetail.cfm?ReleaseID=402776>.

³⁷ See Ian Olgeirson & Mari Rondeli, SNL Kagan, *HSD Revenues Tilt Upward Despite Pricing Pressure, Multichannel Market Trends*, Apr. 27, 2009 (reporting that there were 38.12 million residential cable Internet subscribers at the end of 2008 and that Internet revenues continue to rise despite lower prices because more consumers are purchasing broadband Internet service).

IV. CONCLUSION

These facts present a compelling picture of an industry that has deployed its service to the vast majority of American households, and a responsive public that is quickly making broadband Internet service an integral part of American life. There is still work to do, but much already has been achieved. The Commission's report to Congress should acknowledge the enormous progress that has been made in making broadband Internet service available to virtually every American in a reasonable and timely fashion.

Respectfully submitted,

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